

E-boiler completes BECC Energy Hub

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With the commissioning of a large industrial electric boiler of 10 MWe from the Norwegian Parat Holversen, the BECC Energy Hub in Cuijk can operate even more sustainably and profitably. The boiler makes it possible to convert cheap electricity from solar energy or wind power into steam (30 bar) for customers in the business park. This is one of the ways BECC absorbs fluctuations in the energy market and biomass supply.

"Our fast e-boiler can come in handy next to the relatively slow biomass power station," says Dan Ole Vikeså from Parat. "As a Norwegian company, we have decades of experience converting electricity from hydropower into heat through steam. You can find our e-boilers provide heat on drilling platforms, in the paper industry, breweries, and steel and aluminum production."

Parat supplied a custom-made Super Heater E-boiler to the BECC Energy Hub. Because there are no moving parts, this e-boiler is virtually maintenance-free. Vikeså: "The boiler is always on standby and can be up to temperature within 30 seconds, and we are talking about 239 to 270 degrees."

Bio Energie Centrale Cuijk supplies green energy to Greenchoice and sustainable heat to the industrial estate. Customers like the paper industry need heat 24 hours a day, which BECC supplies as high-pressure steam. The biomass plant produces both steam and (green) electricity. The electricity demand fluctuates, partly because other sustainable sources such as sun and wind depend on weather conditions.

With the installation of the e-boiler and the previously added battery, BECC can now function as a buffer on the supply and demand market for electricity. If the electricity price is low, purchasing and using electricity to let the e-boiler produce steam is beneficial. In such a period, our plant temporarily moves the burning of prunings and demolition wood to the back burner. This can vary per hour. Thus the e-boiler and the powerplant are equipped with advanced control equipment.

The e-boiler complements the gas-fired auxiliary boiler and is needed to restart the plant after maintenance work. The addition of the e-boiler reduces the gas consumption of the BECC Energy Hub even further.

With this investment, the BECC Energy Hub is ready to supply flexible, sustainable energy to its customers. Partner Gertjan de Jong: "This second investment perfects BECC as an Energy Hub for green electricity and the sustainable industrial heat network, including contributing to the Dutch energy transition."

Greenchoice optimizes the flexible use of BECC's green power production. This applies to the bio-energy plant, the 10 MW Alfen Battery, and the 10 MW Parat boiler. Jurgen Duivenvoorden, trading & forecasting manager: "The combination of storage and the flexible use of the e-boiler is crucial for an energy company to make more room for solar and wind

energy on the electricity grid. We can determine the optimal use for BECC, both for commercial returns and for the contribution to the balance in the power supply."

Since 2019, Greenchoice has installed various batteries at its own wind farms in collaboration with Spectral, which specializes in software solutions for the energy transition. The combined installation at the BECC Energy Hub is a new phenomenon for Greenchoice and Spectral.

Duivenvoorden: "Consumers and companies are increasingly generating their own electricity. That is why we will need these types of combinations in more places in the country. This will make us less dependent on fossil fuel plants."

Recoy helped BECC with the preliminary study. Kaisec took care of the mechanical and process engineering design. Modderkolk provided electrical engineering support, and Fadura provided the metering. Spectral is responsible for the integral control and energy management of the Energy Hub.

From the shareholders as well, there is a lot of support to continue investing in BECC and realize the transition to the BECC Energy Hub. "We invest in various themes that are relevant within the Dutch market, including the transition from the old to the new economy," says Frans van der Harst, Partner at Pontex Investment Partners. Pontex, through one of its private equity funds, provided risk capital as a minority shareholder during the restart in 2015. "BECC is one of the companies in our portfolio. We are committed to making continuous improvements at BECC to make the plant even greener and more efficient." These investments in the BECC Energy Hub have been made possible with the support of BOM (Brabantse Ontwikkelings Maatschappij), Beequip, and BECC Holding (Nationaal Groen Fonds).

BECC Cuijk works with customers and suppliers to make North Brabant, the Netherlands, more sustainable based on regional biomass. BECC is the largest sustainable generator with local biomass residual flows in North Brabant, on the way to a sustainable heat supply to the municipality of Land van Cuijk by 2030 at the latest.